

Application Number 10/695,845
Response to Office Action mailed July 10, 2008

RECEIVED
CENTRAL FAX CENTER
OCT 10 2008

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. – 16. (Cancelled)

17. (Currently Amended) A catheter for use in performing a medical procedure comprising:
an elongated tubular structure having a proximal end and a distal end;
said tubular structure being a size of no greater than about 4 French;
said tubular structure enabling fluid flow rates in a range of approximately 0 to 40 ml/sec without failure of said tubular structure; and
said distal end of said tubular structure having, on an end of a tip section, an elastic restrictor that, when operable, changes in size in response to a change in fluid flow through the tubular structure to provide a variable amount of fluid force restriction,
said distal end of said tubular structure further having, on a sidewall of said distal end, a plurality of openings, wherein at least one of said openings ~~that are each~~ is angled towards the proximal end of said tubular structure, and wherein said openings ~~that~~ are arranged such that forces resulting from fluid flow out of said openings and out of said elastic restrictor are substantially balanced in both axial and radial directions during performance of said medical procedure.

18. (Original) The catheter of claim 17 wherein said distal end of said catheter is made of a material that is softer than a material of said proximal end.

19. (Original) The catheter of claim 17 wherein said restrictor comprises a diameter of approximately 0.305 mm.

20. – 35. (Cancelled)

Application Number 10/695,845
Response to Office Action mailed July 10, 2008

36. (Currently Amended) A catheter assembly comprising:
- a hub section located at a proximal end of said catheter assembly;
 - a shaft section attached to a distal end of said hub;
 - a stem section connected to a distal end of said shaft, said stem section comprising one or more openings formed in a sidewall of said stem section, wherein at least one of said openings that are each is angled towards the proximal end of said catheter assembly;
 - and
 - a distal tip section attached to a distal end of said stem section, said distal tip section including, on an end, a small opening, said small opening comprising an elastic restrictor that, when operable, changes in size in response to a change in fluid flow through said catheter assembly to provide a variable amount of fluid force restriction, such that forces resulting from fluid flow out of said openings in said stem section and out of said elastic restrictor are substantially balanced in both axial and radial directions.
37. (Previously Presented) The catheter assembly of claim 36, wherein said openings of said stem section are holes.
38. (Cancelled)
39. (Currently Amended) The catheter assembly of claim 36, wherein the at least one of said openings of said stem section causes at least some fluid exiting an internal lumen of said catheter to flow in a retrograde direction to a fluid stream.
40. (Previously Presented) The catheter assembly of claim 36, wherein said openings of said stem section and said small opening of said distal tip section are configured to provide a cumulative, substantially zero fluid-force vector in all directions.

Application Number 10/695,845
Response to Office Action mailed July 10, 2008

41. (Previously Presented) The catheter assembly of claim 36, wherein a quantity, size and arrangement of said openings in said stem section and said small opening of said distal tip section provide proper balancing of distal and lateral forces created by a forward and rearward motion, respectively, of fluid as it flows out from an internal lumen and exits said openings of said catheter.

42. (Previously Presented) The catheter assembly of claim 36, wherein said catheter assembly has a maximum external diameter of about 4 French.

43. (Previously Presented) The catheter of claim 17, wherein the elastic restrictor, when operable, increases in size in response to an increase in fluid flow through the tubular structure.

44. (Previously Presented) The catheter assembly of claim 36, wherein the elastic restrictor, when operable, increases in size in response to an increase in fluid flow through said catheter assembly.

45. (New) The catheter of claim 17, wherein said openings are arranged such that forces resulting from fluid flow out of said openings and out of said elastic restrictor result in a substantially net fluid force of zero.

46. (New) The catheter assembly of claim 36, wherein forces resulting from fluid flow out of said openings in said stem section and out of said elastic restrictor result in a substantially net fluid force of zero.